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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,398	10/14/2004	Ivonete Markman	PU020116	9507
<div>7590 04/30/2007 Joseph S Tripoli Thomson Multimedia Licensing P O Box 5312 Princeton, NJ 08543-5312</div>			<div>EXAMINER NGUYEN, LEON VIET Q</div>	
			<div>ART UNIT 2611</div>	<div>PAPER NUMBER</div>
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,398	Applicant(s) MARKMAN, IVONETE	
	Examiner Leon-Viet Q. Nguyen	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8,9 and 12-20 is/are rejected.
- 7) ☒ Claim(s) 3-7 and 10-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. This office action is in response to communication filed on 2/22/07. Claims 1 - 20 are pending on this application.
2. Applicant's amendment overcomes the following objection/rejection:
 - a. Objection to claims 3 and 4
 - b. Rejection of claims 3, 4, 10, and 11
3. Applicant's arguments, see Remarks, filed 2/22/07, with respect to claims 3-4 and 10-11 have been fully considered and are persuasive. The rejection of claims 3-4 and 10-11 have been withdrawn.
4. Applicant's arguments with respect to claims 1-2, 8-9, and 12-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 8-9, and 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hu et al (US5841478):

Re claim 1, Hu discloses in a system for processing video data comprising groups of interleaved trellis encoded data packets (abstract), apparatus for providing trellis decoded data, comprising:

means for generating decision data associated with trellis state transitions in response to said video data (col. 16 lines 61-62), including a branch metric computer (branch metric computer 30 in fig. 1), comprising means for selecting an estimated value for a second information data bit from a pair of first and second data bits (col. 13 line 66-col. 14 line 9, Z1 and Z0 comprise the pair of data bits, the Z2 value is the closest to the received delayed symbol point and interpreted to be estimated);

a traceback network responsive to said decision data for identifying a sequence of antecedent trellis states, as determined by a state transition trellis (abstract, col. 15 lines 63-65), wherein said antecedent states are identified for a sequence of collocated interleaved packets (col. 16 lines 65-67); and

means responsive to said identified sequence of antecedent trellis states, for providing said trellis decoded data (col. 17 lines 1-2).

Re claim 2, Hu discloses a system further including means for calculating for a current trellis branch a value for the first data bit and an estimated value for the second information data bit (col. 4 lines 46-53, col. 7 lines 10-13).

Re claim 8, Hu discloses in a system for processing video data comprising groups of interleaved trellis encoded data packets formed from information data pairs containing a first data bit and a second data bit, a method of providing trellis decoded data comprising the steps of:

generating decision data associated with trellis state transitions in response to said video data (col. 16 lines 61-62) including calculating a value for a first data bit (col. 13 lines 40-44, col. 14 lines 37-41, the synchronized X1 data is interpreted to be a calculated value) and estimating a value for a second data bit (col. 14 lines 6-9, the Z2 value is the closest to the received delayed symbol point and interpreted to be estimated);

identifying a sequence of antecedent trellis states in accordance with a state transition trellis (abstract, col. 15 lines 63-65), wherein said antecedent states are identified for a sequence of collocated interleaved packets in response to said decision data (col. 12 lines 45-61, col. 16 lines 65-67); and

providing said trellis decoded data in response to said identified sequence of antecedent trellis states (col. 17 lines 1-2).

Re claim 9, the claim limitations as recited have been analyzed and addressed in the above rejections with respect to claim 2.

Re claim 12, the claim limitations as recited have been analyzed and addressed in the above rejections with respect to claim 6.

Re claim 13, Hu discloses a system further comprising the step of updating the pointer once for each epoch (col. 12 lines 28-32).

Re claim 14, Hu discloses in a system for processing video data, said apparatus further comprising:

a trellis decoder (24 in fig. 1) having a plurality of trellis branches (fig. 4) and trellis states (abstract) for decoding encoded symbols (abstract) having at least a first information data bit and a second information data bit (col. 8 lines 18-25, Branch Metric Data1 and Data2), the trellis decoder comprising said branch metric computer (30 in fig. 1), the branch metric computer being adapted to compute a metric value (col. 5 lines 45-48) between the encoded symbol received by the trellis decoder (col. 6 lines 58-60) and the encoded symbol associated with the trellis branches (col. 9 lines 59-62), the branch metric computer generating a plurality of output bits associated with a current trellis branch leading from a trellis state (col. 9 lines 59-67, col. 10 lines 3-6), the output bits identifying characteristics of the first and second information data bits (col. 7 lines 10-17, Branch Metric Data1 and Data2 in each BMU of the BMC architecture have information of the proximity to cosets A and C).

Re claim 15, Hu discloses a trellis decoder (24) wherein the branch metric computer (30) further comprises a plurality of computer subunits (fig. 6), each computer subunit being associated with a particular trellis state (col. 7 lines 63-col. 8 line 7, signal A and B are associated with a state and each BMU of the branch metric computer has an A and B input), each computer subunit generating a plurality of signals (col. 8 lines 22-24, fig. 6) identifying an estimated characteristic of each trellis branch leaving the particular trellis state associated with the computer subunit (col. 7 lines 10-17, col. 8 lines 22-24).

Re claim 16, Hu discloses a trellis decoder (24) further comprising an add-compare-select unit (43), the add-compare-select unit receiving the branch metric computer output bits (the output of 30) identifying characteristics of the first and second information data bits (col. 7 lines 10-17, Branch Metric Data1 and Data2 in each BMU of the BMC architecture have information of the proximity to cosets A and C), the add-compare-select unit choosing the appropriate first and second bits based on the selection of the minimum path metric (col. 8 lines 50-57, the smaller sum is selected as the output path metric data).

Re claim 17, Hu discloses a trellis decoder (24) wherein add-compare-select unit (43) further comprises a plurality of add-compare-select subunits (fig. 9), each add-compare-select subunit being associated with a particular trellis state (col. 9 lines 64-67, the four state ACS trellis), each add-compare-select subunit choosing the appropriate

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first and second bits corresponding to each state based on the selection of the minimum path metric into the state (col. 8 lines 50-57, the smaller sum is selected as the output path metric data).

Re claim 18, Hu discloses a trellis decoder (24) further comprising a traceback unit (47), the traceback unit receiving the estimate of the second data bit from each of the add-compare-select subunits (col. 3 line 67-col. 4 line 2, col. 10 lines 29-33, the symbols from 10 and 43 that represent the proximity or estimate of a received symbol) and selecting one of the estimated second data bits as a correctly decoded data bit (col. 4 lines 14-17, the most likely corresponding sequence of bits is interpreted as the correctly decoded bit).

Re claim 19, Hu discloses a trellis decoder (24) wherein the traceback unit (47) receives the value of the first data bit from each of the add-compare-select subunits (the output of 43, it would be inherent to have at least one data bit) and selects one of the first data bits as a correctly decoded data bit (col. 4 lines 14-17, the most likely corresponding sequence of bits is interpreted as the correctly decoded bit).

Re claim 20, the claim limitations as recited have been analyzed and addressed in the above rejections with respect to claim 1. It would be inherent to have a method of using the system as claimed in claim 1.

Response to Remarks

Applicant asserts, in accordance with claims 1 and 2, that Hu requires additional processing in additional apparatus to identify the information X2 bit (Remarks pg. 9, first paragraph) and that Hu does not provide information about the X2 bit from the branch metric computer (Remarks pg. 9, third paragraph).

Examiner respectfully disagrees.

The X2 bit, which corresponds to the encoded bit Z2, is identified (Remarks pg. 8). Since the Z2 value is the closest to the received delayed symbol point (Rejection pg. 3), it is not actually the same as the delayed symbol point and thus is interpreted to be estimated with respect to the delayed symbol point. And although Hu requires additional processing (demapper 60 and re-encoder 50 in fig. 1), all of the limitations of claim 1 are addressed in Hu, including a branch metric computer (branch metric computer 30 in fig. 1).

Applicant asserts, in accordance with claim 8, that fig. 2 in Hu depicts an encoder and not a decoder (Remarks pg. 11, third paragraph).

Examiner agrees. However in view of the new grounds of rejection of claim 8, argument is moot. Furthermore, reproducing the original sequence of X1 bits by the decoder in fig. 1 (col. 13 lines 40-44) is interpreted to be calculating a value for the first data bit. Also, as stated in response to the argument to claim 1, since the Z2 value is the closest to the received delayed symbol point (Rejection pg. 11), it is not actually the

same as the delayed symbol point but rather an estimated value with respect to the delayed symbol point.

Applicant also asserts, in accordance with claim 8, that there is no showing in the rejection of how or why one would modify anything from claim 11 in Hu to add the underlined elements of applicant's claim 8 (Remarks pg. 11). However, in view of the new rejection of claim 8, no modification would be required since all of the limitations are taught disclosed by Hu.

The arguments in accordance with the method of claim 20 have been addressed with respect to the response to claim 1 (Remarks pg. 12). Claim 20 is merely a method of using the apparatus of claim 1.

Regarding claims 5-7, 9, and 12-19, no specific issue was raised. Patentability of these claims are contingent upon the merits of their respective independent claims.

Allowable Subject Matter

Claims 3-7 and 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The allowable subject matter of claims 3 and 4 pertain to concurrently selecting appropriate first and second data bits into a trellis state.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon-Viet Q. Nguyen whose telephone number is 571-270-1185. The examiner can normally be reached on monday-friday, alternate friday off, 7:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon-Viet Nguyen/


DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER